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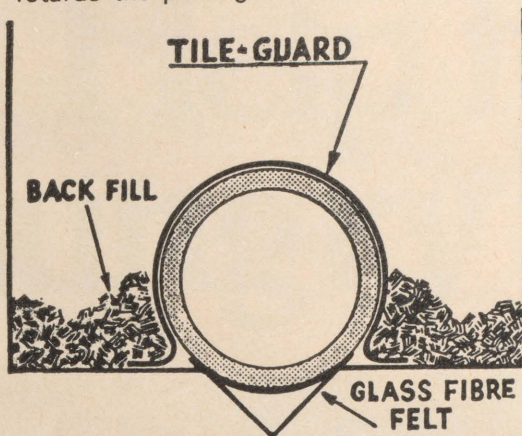
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THE macdonald JOURNAL

AUGUST 1975

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Citizens group and naturalist,
Marie Crevier, inspect a frog.
See article page 3.

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Journal Jottings

There are advantages and
disadvantages to being a monthly
publication rather than say a daily
or a weekly. Certainly one of the
disadvantages is that most material
for the Journal must be prepared
or printing from four to five
weeks ahead of publication date.
Obviously this makes it practically
impossible to publish "as it
happens" news and information.
But our deadlines do give us time
for more complete coverage and
for more in-depth study. Take the
Family Farm section as an example.
We realize that news of major
Department of Agriculture policy
decisions may be obtained faster
from other sources and that advice
and information on grants, loans,
acts, Bills and so on are available
from any one of the agricultural
offices throughout the province.

Therefore the Information Office of
the Department of Agriculture felt,
and we concur, that they could
perhaps best serve our readers by
providing feature-like material.
If this month's piece on pasture
management is any indication of
what we might expect in the future,
then I think we have taken a step
in the right direction. The apple
industry and sugar beets will be
featured in the next two issues.
Do watch for them.

There are a couple of coincidences
in this issue that I found of
interest. Several months ago when
we asked Rudi Dallenbach,
Macdonald College Farm Director
to expound on the subject of
silages we had no idea that we
would also have the article on
pasture management. I feel they
complement each other very well.
The other coincidence is that our

feature article is on a research
project undertaken last year in the
Morgan Arboretum. How can areas
such as the Arboretum best be
utilized by groups of people such
as Senior Citizens? We are
delighted to be able to publish
the results of such a worthwhile
undertaking. And it was, therefore,
of interest to us to learn from
Mrs. Parker Rockwell, a guest
speaker at the recent Q.W.I.
Convention that similar projects
are being studied in the National
Arboretum in Washington, D.C. Her
comments on this are also in
this issue.

Coincidence or well planned —
with articles as good as these,
we'll take them either way.

Hazel M. Clarke

The most recent report of business conditions by Statistics Canada gives a revealing picture of the shifting economic power in Canada. According to their figures, farmers and small businessmen are receiving a smaller proportion of our gross national product (value of all goods and services produced in Canada), while the proportion received by labour and corporations has been increasing during the last 10 to 20 years. In fact, the latest national income figures show that farmers' proportion of the total has dropped from 2.6 per cent to 2.2 per cent during just the first three months of this year. Meanwhile, the proportion going to labour increased from 54.5 per cent to 57.1 per cent during the same time period.

This is a situation that should cause some concern to all of us associated with agriculture in Canada. It indicates a gradual eroding of agriculture's position in the economy. But more important it indicates that the economic contribution of the farmer is gradually being overshadowed by corporations and organized labour. This is something that is going to affect farm producers even more in future years unless something can be done to give farmers a stronger bargaining power in the market place. One of the reasons

why farm prices have been stable or falling while food prices at the grocery have been rising is the ability of organized labour to increase its bargaining power in the agricultural industry. And the increase of wages to labour has to be made up by increases in food prices to the consumer and reduction in farm prices to the producer. Currently the farmer receives 38 cents out of every food dollar spent at the grocery store. This is one cent less than the farmer's share in 1958 and 12 cents less than in 1948. Clearly the farmers' relative economic position in the food industry has been weakening even though total farm income may have increased during this period.

What is the solution for farmer-producers? There really isn't a simple, quick, or easy solution to the farmer's plight. A lot of work will have to be done just to make up for lost ground. But it does seem clear that the farmer is going to have to try to have more influence in the marketing of his products as in the purchase of the inputs required to produce that product.

Gordon Bachman

Forest Nature Trails for Senior Citizens



Photos, including cover, by Professor A. R. C. Jones.

by **J. D. MacArthur**
and **E. R. Thompson,**
Woodland Resources,
Department of Renewable Resources

Current interest in outdoor recreation and public demand for more recreational space are exerting growing pressure for more goods and services on forested areas, especially on those that are in or near urban centres. To accommodate this demand effectively on a long-term basis, the physical resources of these areas and the desires of the clientele they serve must be better understood.

The Morgan Arboretum and Woodlands at Macdonald College provides a good opportunity to study the needs and desires of people and the capacity of a forested area to meet them on a sustained basis. This wooded area includes an arboretum, extensive natural forest, and many small planted stands of both coniferous and broad-leaved species. The

whole forest serves as a centre for research, teaching, and demonstration in a wide variety of subjects relating to forest conservation. At the same time it is operated as a working model of a farm woodlot.

In the summer of 1974 research on the design of forest nature trails for recreational use by Senior Citizens was done in the Arboretum. This project was part of an ongoing program of the Laurentian Forest Research Centre of the Canadian Forestry Service in urban forest research and was funded by that organization. Attention was focussed on Senior Citizens because it was felt that they tend to be left out of many programs.

The project was directed by Professors J. D. MacArthur and A. R. C. Jones of Macdonald College. Principal research assistants were E. R. Thompson, a graduate student at Macdonald College, and Louise Motard, a summer em-

ployee of the Laurentian Forest Research Centre and a student at Laval University. Mr. R. J. Hatcher, the Research Centre project leader for urban forestry, also participated, initially as observer and later more actively in the field work.

To gather the background information required to set up the actual trails, a series of interviews with people directly involved with the aged were carried out during preliminary phases of the study. Information gathered through the interviews indicated the general interests of the aged, types of field trips to which they were accustomed, and the modifications that would be necessary to make their visit to Morgan Arboretum both rewarding and enjoyable. Based on this information, four sites were chosen for trails where access from the main road was easy and where there were no steep or sudden grades. The main modifications to existing facilities included

extra toilet facilities and the use of ballades (the special easy-access coaches towed by tractors which are used for sight-seeing tours at Man and His World) to transport the visitors to the different trail sites around the Arboretum.

Visiting groups usually arrived about 10:00 a.m. After a brief orientation regarding the Arboretum and the objectives of our research they visited two of the trails. At noon tea and coffee were provided to go with a lunch the visitors brought from home and, after a short rest, the remaining two trails were visited. Experienced nature guides were on hand to answer questions during the tours. The guides provided interested companionship as well as explanations about the various experiences encountered by people whose limited mobility would not always allow them to investigate personally things which attracted their attention.

The trail sites selected offered a variety of experiences. The first was located around a small artificially-created pond which was surrounded by a grassy opening and which contained a variety of aquatic plant and animal life. At Hemlock Corner the visitors were able to stroll freely in the shade of a closed canopy of hemlock trees. The forest floor had very little shrub vegetation and provided a soft, springy surface for walking.

A third trail contrasted greatly with the free movement provided at Hemlock Corner. It wound through a very dense, old pine and hemlock stand. A variety of younger conifer and broad-leaved trees made this trail very diverse and interesting. The remaining site was located at the tree nursery near the entrance to the Arboretum. Here the visitors wandered through

the rows of young trees and shrubs.

In all cases the amount of construction, and consequently the initial disturbance of the forest during the establishment of the trails, was minimal or non-existent due to careful site selection and location of the trails. The trails were designed and placed so as to blend with the existing forest environment. Despite the limited mobility and agility of the visitors, they had no trouble at any of the sites in walking on existing surfaces of the forest floor. Wet areas and roadside ditches were bridged with sheets of plywood to allow easy access to the trails.

A total of 215 members of seven Golden Age Clubs (Senior Citizens groups) visited the Arboretum during the study. The groups were very mixed and included members from both French and English communities with a wide cross-section of socio-economic backgrounds being represented. Because membership in Golden Age Clubs begins at 50, age varied greatly, with a corresponding variation in degree of mobility and interest in different outdoor activities. While many were capable of exploring the Arboretum on their own, others were restricted to sitting in the fresh air and were much more interested in companionship than in the natural aspects offered by the Arboretum.

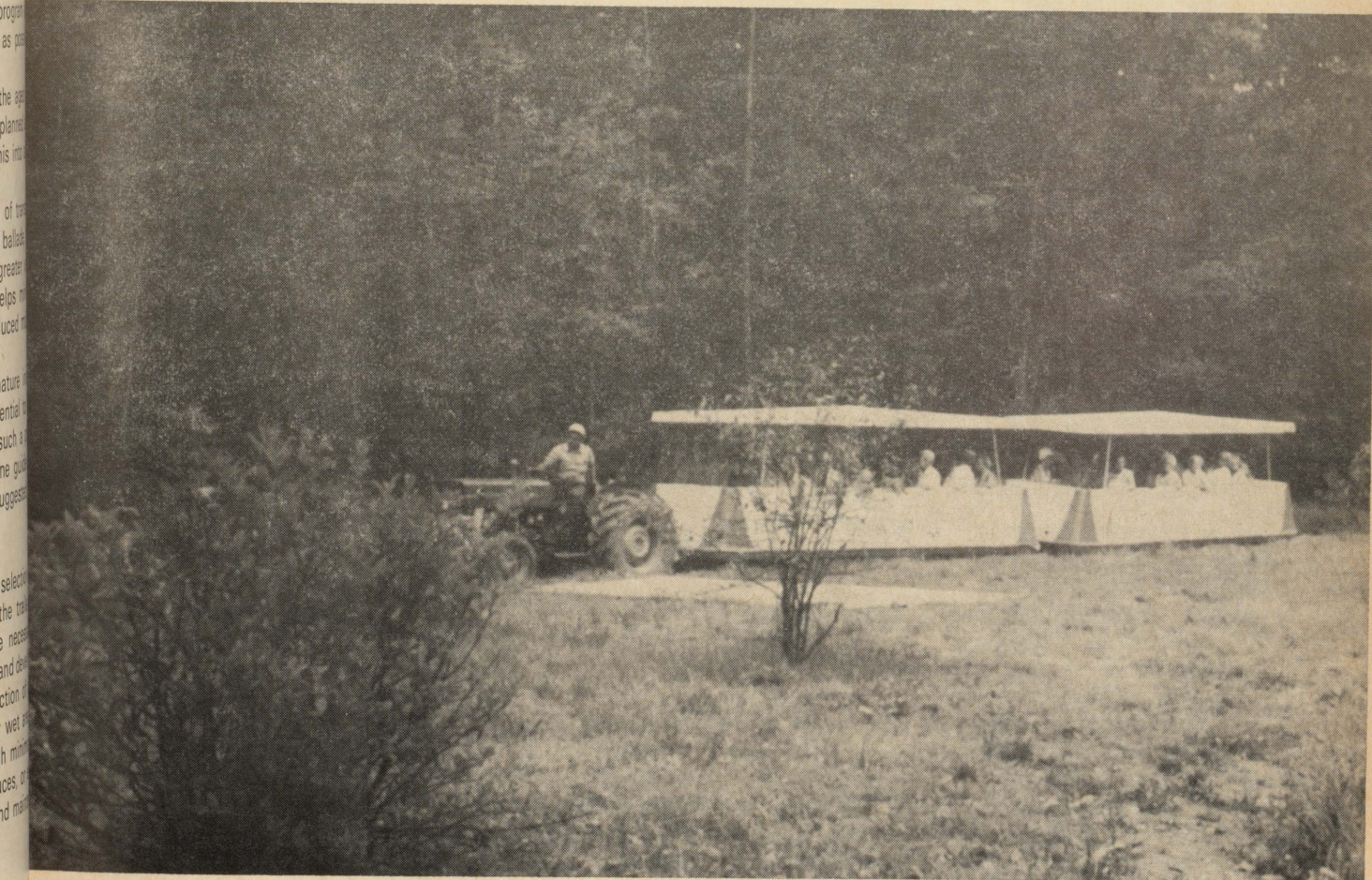
An attempt was made to assess the experiences provided by the different trails using questionnaires and direct observation. The results of this assessment showed that the interests of the groups varied greatly and no one site proved to be the most popular. A general trend throughout the sites was to avoid direct sunlight and temperature extremes whenever possible. One of the few definite conclusions

Top: Studying plants, insects, and other animals found in and around water at the Hill Pond site in a forest clearing. Below: Senior Citizens and guides travel aboard easy-access, two-unit ballade train. In this photo the group are arriving at Hill Pond in open area. Temporary plywood bridge over ditch in foreground.

that could be made from the study is that the aged have greatly varied interests and, therefore, a successful nature program for the aged must be as varied as possible. Every effort must be made to allow individuals to pursue their own interests at their own pace.

Based on our research to date, the following conclusions are proposed for those interested in initiating a forest nature trail program for the aged:

- (i) the interests and preferences of the aged are extremely varied and an effort should, therefore, be made to make a nature trail program as varied and diverse as possible;
- (ii) mobility of the aged varies greatly and planned activities must take this into account;
- (iii) some means of transportation, such as the ballade, makes available a greater variety of trails and helps minimize the effect of reduced mobility;
- (iv) guides for nature interpretation are essential to the success of such a program. A ratio of one guide per five visitors is suggested as being optimum;
- (v) careful site selection and location of the trails can minimize the necessary initial disturbance and development—eg., construction of primitive bridges over wet areas or ditches. Such minimal development reduces, or eliminates, vandalism and maintenance costs;
- (vi) toilet facilities must be adequate and easily accessible.



Effectiveness and Profitability of Silages in the Production of Milk and Beef

by Rudi Dallenbach
Director,
Macdonald College Farm

The need for conserving feed at a period of lush growth for feeding during the long winter months is a problem as old as agriculture.

On small farm operations economics dictate the use of pasture and hay as the only forage. However, larger animal operations require such large quantities of feed of uniform quality that stored feeding systems must be used. The reasons for shifting from the conventional haying operation to silage lies in the following three basic advantages:

1. reduction of harvest and curing losses;
2. mechanization from field to manger;
3. using fermentation to make a more palatable and better digestible feed.

Forages are a major input in producing milk or meat. Ever increasing production and land costs may well push forage inputs to 30 to 40 per cent of the cost of producing milk or meat. What can we do to minimize forage costs? Should we reduce cost per unit by increasing quality which should result in higher production of milk and meat while reducing protein supplement, or should we change to lower cost forage crops? The cost of producing a ton of forage dry matter can be reduced by increasing yields, reducing harvest and storage losses, and changing to higher yielding forage crops.

Which crops to grow depends on many factors: land resources available, drainage, nutrient composition

of each crop, costs of production, climatological requirements and, last but not least, personal preferences.

Corn silage has benefited especially from the development of improved technology and practices. The same applies to the production of alfalfa. Operation Luzerne has created a great interest in this crop and an increased acreage has been cultivated and put into storage in the form of silage.

While significant differences exist in corn silage and haylage, the two silages are highly compatible in feeding programs. However, most dairy or beef operations in our province do not have the facilities to feed the two at the same time. I will therefore discuss each on its own merits as a roughage for the respective livestock.

Several studies and experiences by farmers have proven that an all-corn silage program is feasible and can maintain herd health and high milk production. However, some management precautions have to be taken.

Corn silage varies in nutritional content from field to field; it varies from year to year, and therefore no cattle feeder can assume the quality of corn silage as being constant. Silage has to be sampled every month, and a complete analysis made so that a proper balanced feeding program can be worked out. The sampling can also be done during filling time with plastic coloured markers placed in the silo at the time of sampling. The moisture content at harvest is a vital factor. A dry matter level of 30 to 40 per cent is acceptable. Seventy per cent moisture or more lacks nutritional quality

RELATIVE NUTRITIVE VALUE OF* ALFALFA SILAGE AND CORN SILAGE

	Alfalfa Silage	Corn Silage
Dry Matter	36	34
Crude Protein	18	8
Total Digestible Nutrients (T.D.N.)	58	70
Crude Cellulose	30	25
Calcium	1.40	0.28
Phosphorus	0.32	0.20
*Based on Dry Matter		

Table 1. From N.R.S. Publication No. 1684, 1969.

Dairy Production

Corn

Dairy cattle have a high energy requirement and can therefore make excellent use of high quality corn silage. On most farms corn silage feeding is supplemented by some hay and concentrate, but the economics of owning two systems for hay and corn production are raising the question of corn silage as the only forage.

and often is the cause of low butterfat tests because of the lack of fibre in the ration. Below 60 per cent moisture creates problems in storage quality and palatability. Protein supplement has to be added according to silage analysis. We have observed protein levels in the same year in one silo varying from 6.5 to 10.5 per cent.

The mineral supplement may have to be changed several times according to analysis. A phosphorus:calcium ratio of 2:1 is

recommended. Vitamins A and D also have to be supplied.

In formulating a meal ration to balance corn silage, we suggest that a 68 to 70 per cent T.D.N. ration will meet maintenance and production requirements. The protein will be of major consideration; 18 to 22 per cent protein will be required for most of the cows in the herd. For very high producing cows, part of the meal ration might have to be mixed into the corn silage to assure maximum intake.

Corn silage as the only roughage requires top management and is possible, particularly for operators with high cost land and expensive labour.

Grasses

Considering that Canada, and particularly Québec, has always been short of protein, and realizing that human consumption of vegetable proteins will continue to increase rapidly, we do not expect a reduction in price of purchased proteins for some time. We therefore have to make much better use of home grown protein supplies. Alfalfa or any other legume silage can reduce protein purchases considerably.

As with corn silage, the variations in nutritional value of ensiled forages are even greater. Time of cutting, type of silo, proportion of legume to grasses all determine the value of the crop ensiled.

Direct cut silages contain 80 to 85 per cent moisture or four to six tons of water for every ton ensiled. Feed value will be lost through seepage and a most disagreeable smell will prevent you

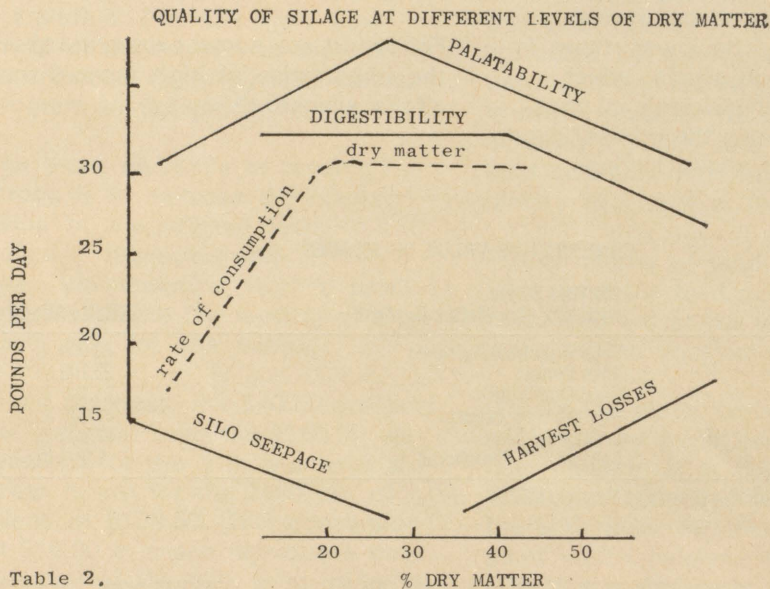


Table 2.

from returning to your home for breakfast. Wet silages will lower feed intake and reduce production, unless preservatives are used.

Dry silages contain up to 35 per cent moisture. Field losses increase as dry leaves fall off or blow away at harvesting time. Excessive heating in the silo will tie up the protein so it will not be available to the animals. All this can be overcome by investing in highly

expensive air-tight silos. Half-dry silage or haylage with 50 to 60 per cent moisture is possibly the method to choose for most farmers. There are fewer field losses, no seepage and therefore a highly digestible good-smelling silage.

The feed value of material going into the silo is the major factor of feed value coming out. Because of the different composition of

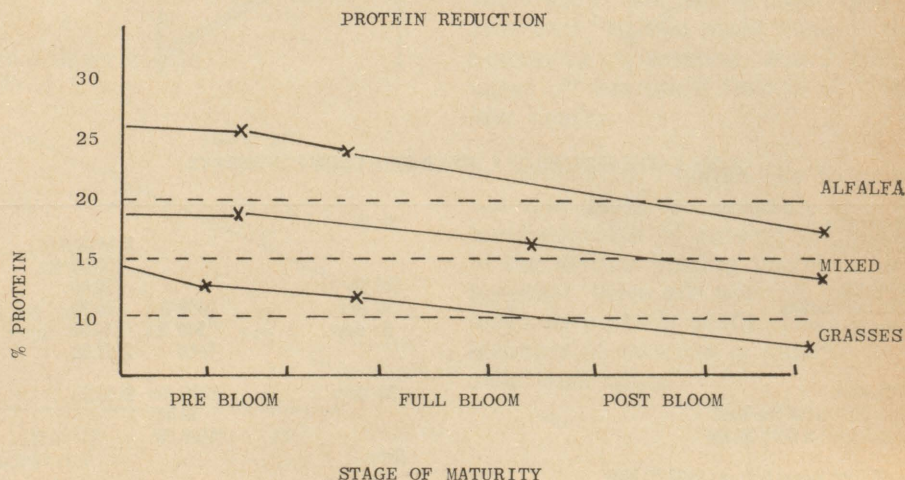


Table 3.

haylage and corn silage, these two forages must be supplemented differently for a balanced ration. From Table 4 it can be seen that good quality alfalfa haylage can contain more than double the protein of corn silage. However, the energy will be lower; there is more calcium in alfalfa, which indicates a mineral high in phosphorus to balance the mineral needs of animals fed alfalfa haylage.

As with corn silage, it is wise to have your haylage analysed; sufficient silage has to be removed every day to prevent excessive heating, as growth of mould will lower feed consumption.

Following are some examples of the importance of high protein alfalfa silages:

Sample 1.

40% dry matter (60% moisture)
10% protein (dry matter basis)
Suggested grain mixture:
17-18% protein
71-73% energy

Sample 2.

40% dry matter (60% moisture)
16% protein (dry matter basis)
Suggested grain mixture:
11-13% protein
71-73% energy

COMPARATIVE VALUE OF SILAGES

Corn Silage	200 Tons Silage with 30% Dry Matter Content	Alfalfa Silage
84,500 lb	Total Digestible Nutrients	69,000 lb
9,700 lb	Total Protein	20,100 lb
5,500 lb	Digestible Protein	13,300 lb
73,100 lb	Non Nitrogen Extracts	45,600 lb
22,600 lb	Crude Fibre	38,900 lb
5,900 lb	Calcium and Phosphorus	1,550 lb

Table 4. Ref: New Holland Grassland Manual, 1962

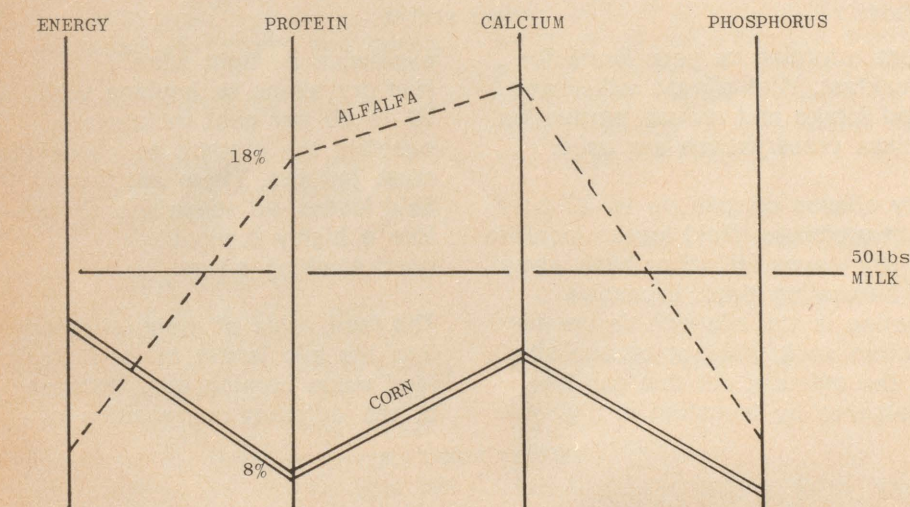


Table 5.

Table 6. THE FEEDING OF A 1400 LB DAIRY COW FOR 30 DAYS

Milk per Day		50 lb			
Corn Silage				\$ 14.00/ton	
Meal				150.00/ton	
Milk Price		100 lb		10.00	
80 lbs Corn Silage	X	30 days	=	2400 lbs	16.80
18 lbs Meal	X	30 days	=	540 lbs	40.50
				Total	\$ 57.30
50 lbs Milk	X	30 days	=	1500 lbs	\$150.00
Minus the Cost of the Meal				40.50	
Gross Return of Corn Silage				\$109.50	
Gives					
\$16.80 Corn Silage Returns \$109.50 Milk					

Feeding Practices

Let us assume that we have stored a highly digestible forage in the form of corn or legume silage. How are we going to assure maximum consumption? Considering that we have a silage equal to lush pasture, we have to adapt our winter feeding program to pasture conditions. A major reason for increased milk or meat production on pasture is that the rumen is working at full capacity 24 hours a day because a cow will probably feed 10 to 15 times per day while on pasture. However, once stabled for the winter, she often is only fed twice a day. Her rumen is only working at full capacity for relatively few hours per day. There is also some evidence that long intervals between feeding roughages contributes to greater fluctuations in the pH of the rumen which in turn lowers milk fat production. It is therefore suggested that animals be fed several times per day or that provisions be made for having roughage available at all times.

Beef Production

Because of the high cost of feed and the rather low conversion of protein to meat per acre, the production of high quality home grown forage for protein and energy becomes very important. I would like to suggest that we might have

to be satisfied with a lower rate of gain per day and a somewhat longer feedlot period per animal in the future. As a matter of fact, some studies indicate that steers over 800 pounds need only eight to nine per cent protein on a dry matter basis. This could easily be supplied by a corn silage ration.

Some work has been done at Macdonald College with corn and pole beans. There are indications that such a combination could increase the protein in corn silage to 12 per cent. We have also filled a horizontal silo with corn and alfalfa at a ratio of four loads of corn to one load of alfalfa. However, the economics of such a system are questionable for medium-size farms.

Profitability

There are three areas of nutrition which can be manipulated in milk production to influence total income above feed costs. They are:

- a) the cost of feed ingredients;
- b) the quality of the ingredients;
- and c) feeding the proper rations at the proper time.

The cost of feed ingredients: These vary from farm to farm and it is therefore difficult to establish a standard. Full attention, however, must be given to the contribution made by the feeding program to net profit.

The basic objective of feeding forage is to increase the market value of the original feed. Table 6 illustrates the basic conversion of feed to profit; let us examine the feeding of a dairy cow for one month:

If we subtract the \$40.50 we paid for the meal from the \$150.00 we received for the milk, we have a gross return for the 2400 lbs. of silage of \$109.50. This conversion of \$16.80 in silage represents the function of the milk production operation.

If you apply this same calculation to the production of beef, you will find today that you make more money selling corn than producing beef.

The quality of ingredients fed: The quality of the basic roughage is of great importance. The idea that poor quality roughage can be corrected by feeding more meal is uneconomical for two reasons: it costs more for meal, particularly at today's prices, and a lower feed conversion takes place if low quality roughage is fed with meal.

Proper timing of feed: No matter how good the feed or how low the cost, feed fed at the wrong time will diminish your returns.

One of the major considerations neglected by most dairymen is to feed more meal at the beginning of the lactation and less towards the end. However, there is another point which receives even less attention, particularly for cows freshening in the fall when pastures are usually of low quality. Meal is being fed and probably hay and corn silage as well; however, the low quality pasture is limiting not only the intake of good forage but also the feeding value of the total ration. As a result, less milk is produced even though the cows are offered meal and silage. Our production of 17,500 lbs. per cow at Macdonald College is, to a great extent, probably because of correcting the two above-mentioned problems: 1. feed more meal at the beginning of lactation, and 2. take cows off pasture if feed is of low quality.

In conclusion, I would like to point out that there are probably a hundred ways of losing money in the animal feeding business; however, there are not too many ways to make a profit. The measure of success is income over feed costs.

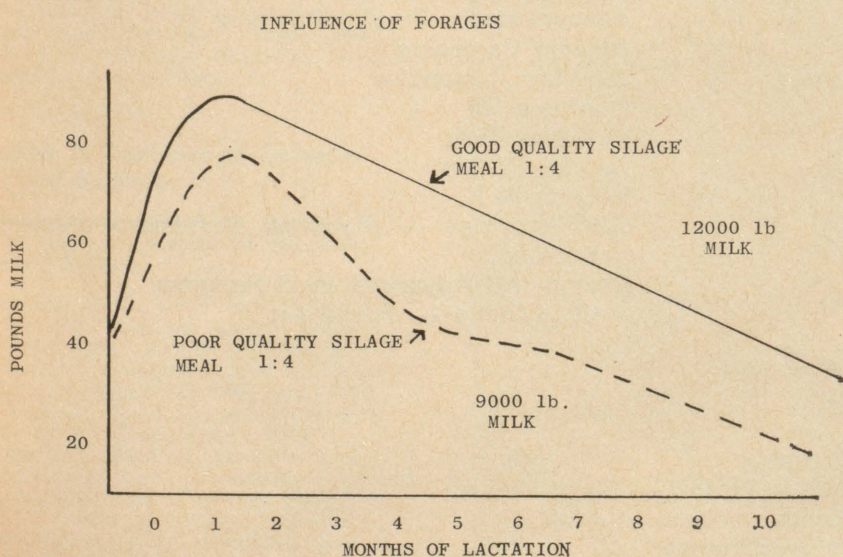


Table 7.

MACDONALD COLLEGE EVENING COURSES

1975-76

The Extension Department of Macdonald College, which has been offering evening courses for over 25 years, is particularly pleased with this year's expanded program. Agricultural courses range from basic farming practices to specialized areas. Others will appeal to those not necessarily wishing to follow an agriculturally-oriented program. Titles are listed below.

The Department welcomes your request for a pamphlet describing all courses in detail, e.g., date, time, cost, and description. Information will be mailed to you if you telephone us at (514) 457-6580 ext. 226, 227, or write to:

Evening Courses
Extension Department
Box 237
Macdonald College, P.Q.
H0A 1C0

FALL TERM

Is Farming for You?
Managing the Small Poultry Flock
Farm Mechanization, Structures, and Drainage
Field Crop Production
Small-Scale Swine Production
Bees and Beekeeping
Private Forestry and Conservation
Commodity Futures Market
Horse Management 1A
Gardening For All Seasons
Sugar Maple and Maple Syrup
The Metric World
Wall Hangings — Macramé, Non-Loom Weaving,
Hooking
Natural Dyeing
Delightful Discards
Let's Quilt It
Accounting for Smaller Business
Foil and Sabre Fencing

WINTER TERM

Comparative Agriculture — 330-410B
Taxation for Part-Time Farmers
Beef Cattle Production
Is Farming for You?
Selection and Care of Shade Trees
Farm Welding
The Metric World
Horse Management 1B
Soil and Crop Production
Grow Your Own Trees, Shrubs, and Flowers
Accounting for Smaller Business
Organic Gardening
Jardinage Organique
Outdoors '76
Montreal Birds
Natural Dyeing
Let's Quilt It
Wall Hangings — Macramé, Non-Loom Weaving,
Hooking
Design and Advanced Wall Hangings
Artistic Crafts — Found Art

SPRING TERM

Bees and Beekeeping
A Home Vegetable Garden — Short Course
Edible Wild Plants
Quebec Spring Wildflowers
Fundamentals of Small Boat Sailing

Macdonald Reports

Convocation, May 31, 1975

Faculty of Agriculture

DIPLOMA IN AGRICULTURE

Candidates presented by Professor
N. C. Lawson, Director of the
Diploma Course

Agnew, John S., Chateauguay, Que.,
Honours; Black, George E., Campbell's
Bay, Que.; Corse-Scott, Neill W.,
Hudson, Que., Honours; *Dumouchel,
Paul, Montreal, Que., Honours; Farmer,
Bertrand, Rigaud, Que., Honours; Fowler,
Charles, Kingsbury, Que.; Harrison, David
L. G., Bishopton, Que., Honours; Labelle
René R., Ormstown, Que., Honours;
*Lisak, David, Montreal, Que., First
Class Honours; MacDougall, Aubrey G.,
Ormstown, Que.; Meldrum, William,
Montreal, Que., First Class Honours;
Miller, Mitchel, Ayer's Cliff, Que.;
Moreau, Bernard, St. Marc, Que., Hon-
ours; Ralston Purina Prize for Project
(ex aequo); Napper, David W., Hem-
mingford, Que.; Peirce, Anthony,
Montreal, Que., First Class Honours;
Saul, Richard J., Montreal, Que., First
Class Honours; Senay, Camille, St.
Césaire, Que.; *Shaw, Susan, St. Lam-
bert, Que., First Class Honours; Ministry
of Agriculture for Quebec Silver Medal;
*Solomon, Steven, Montreal, Que.,
Honours; Taylor, Ann M., Beaconsfield,
Que., First Class Honours; Ministry of
Agriculture for Quebec Gold Medal;
Ralston Purina Prize for Project (ex
aequo); Ulver, Sonja, Laval des Rapides,
Que., Honours; Walsh, Patrick J., St.
Lazare, Que.; *Willison, Adrian, Beaufre-
paire, Que., Honours; Winslow, Terry,
Sherbrooke, Que., Honours.

* — In absentia

Degree of Bachelor of Science in Food Science

Candidates presented by Professor
H. R. Neilson, Director of the School
of Food Science

Bourassa, M. G. Carol, Valleyfield, Que.,
(Dietetics), Honours; Cullen, Laura J.,
Pincourt, Que., (Food Administration),
Honours; Cunningham, Joan K., Dorval,
Que., (Dietetics); Gervais, Lise, Ville
Ile Cadieux, Que., (Dietetics); Gobeil,
Deborah A., Beaconsfield, Que.,
(Dietetics); Hermon, Barbara L. E.,
Beaconsfield, Que., (Dietetics), Honours;
*Hung, Silas S.-O., Kowloon, Hong
Kong, (Food Chemistry), Honours;
Lam, Nancy O. L., Montreal, Que.,
(Dietetics), Honours; Leat, Maureen,
Montreal, Que., (Dietetics); Lee, Clara

M., Montreal, Que., (Dietetics), First
Class Honours; University Scholar;
Harrison Prize; Lei, Helen C., Montreal,
Que., (Food Administration), Honours;
Martin, Heather, Montreal, Que., (Food
Administration); McCallum, Elspeth M.,
J., Buenos Aires, Argentina, (Dietetics),
Honours; Murphy, Arlene P., Chambly,
Que., (Dietetics), Honours; Nucci,
Kathryn-Ann, Montreal, Que., (Food
Science); Nutter, Pamela R. M., Dorval,
Que., (Dietetics), Honours; *Osadchuck,
Nicole, St. Laurent, Que., (Dietetics),
Honours; Rabin, Marilyn R., Rosemere,
Que., (Dietetics), Honours; Saint-Cyr,
Lisa, Dollard des Ormeaux, Que.,
(Dietetics); Silber, Cary, Côte St. Luc,
Que., (Food Administration); Temple-
Hill, Gayle E. S., St. Lambert, Que.,
(Dietetics), First Class Honours; Gov-
ernor General's Medal; Worden, Graham
H. C., Ste. Anne de Bellevue, Que.,
(Food Science), Honours.

* — In absentia

Degree of Bachelor of Science in Agriculture

AGRICULTURAL SCIENCES DIVISION

Candidates presented by Professor
H. R. Klinck, Coordinator

Barrett, R. Newell, Pincourt, Que.,
(Agricultural Economics); Bernus,
Dominique, Fort-de-France, Martinique,
(Animal Science), Honours; Canadian
Society of Animal Science Book Prize;
*Bertrand, Yvon, St. Canut, Que., (Gen-
eral Agriculture); Bishop, Andrew A.,
Wolfville, N.S., (General Agriculture),
Honours; *Bishop, Bruce D., Florence-
ville, N.B., (General Agriculture); Bishop,
Jane A., Wolfville, N.S., (Agricultural
Economics); Bouchard, Jean-Guy, Ste.
Anne de Bellevue, Que., (Animal Sci-
ence); Boumejjane, Benaissa, Meknes,
Morocco, (Animal Science); Bowman,
J. Stuart T., Petitcodiac, N.B., (General
Agriculture), Honours; Breau, Isaac J.,
Moncton, N.B., (General Agriculture),
Honours; Brown, Walter J., Windsor,
N.S., (General Agriculture); Campbell,
Deborah J., Miscouche, P.E.I., (General
Agriculture), Honours; *Charles, Kenny
F., Ville St-Laurent, Que., (Plant
Science); *Comeau, Gabriel V., Meteghan
River, N.S., (General Agriculture),
Honours; Delorme, Alain P., Wendover,
Ont., (General Agriculture); Demerchant,
N. Earle, Perth, N.B., (General Agri-
culture), Doran, Jacques, St. Théodée,
Que., (Agricultural Economics), First
Class Honours; University Scholar;
Gibb, Ian B., Ottawa, Ont., (Plant
Science — Agronomy), Honours; Cutler
Shield; Gilmer, Richard L., South Moun-

tain, Ont., (Animal Science); Godine,
Anthony N., Hampstead, Que. (Agri-
cultural Economics), First Class
Honours; University Scholar;
Greenlaw, Beverley F., Paradise, N.S.,
(Animal Science), Honours; Hender,
Franklyn, Dark Cove, Nfld., (General
Agriculture), Honours; Hink, Linda J.,
Dorval, Que., (Plant Science — Horti-
culture); Hollick, Andrew M., Est Rio,
Brazil, (General Agriculture), Honours;
*Joseph, Ivan A. L., Rosignol Village,
Guyana, (Soil Science); Koessler,
Elizabeth M., Dollard des Ormeaux, Que.,
(Animal Science), Honours; Laljie, Das-
rath, Port Moutant, Guayana, (Animal
Science); Livingstone, Beverly A., Ste
Anne de Bellevue, Que., (Animal
Science), Honours; Lutes, Gerald F.,
Moncton, N.B., (General Agriculture);
MacKenzie, D. Roy, Scotsburn, N.S.,
(General Agriculture); McColl, Stewart
A. R. Lachine, Que., (Agricultural Eco-
nomics); McIsaac, Dale W., Florenceville,
N.B., (Plant Science — Plant Protec-
tion), Honours; Michaud, Donald, Sillery,
Que., (Agricultural Economics), First
Class Honours; University Scholar;
Mitchell, Rae L., Hopewell Cape, N.B.,
(Animal Science), Honours; Moore,
Paul G., Oxford, N.S., (General Agri-
culture), Munro, Roderick L., Montreal,
Que., (Soil Science); Oderkirk, Alexander
H. F., Port Howe, N.S., (Animal Science),
Honours; Ramsay, S. Alexander, Ste.
Anne de Bellevue, Que., (Soil Science);
Reid, Maryanne E., Pointe Claire, Que.,
(Animal Science), Honours; Richardson,
Michael M., New Glasgow, N.S., (Ani-
mal Science), Honours; *Schouten,
Paul M., Gouda, The Netherlands,
(Agricultural Economics), Honours;
Shaw, Allen P. J., Newport, N.S.,
(General Agriculture), Honours;
Sheppard, H. Bruce, Roseneath, Ont.,
(General Agriculture); Smarzik, Kenneth
A., Chambly, Que., (General Agriculture);
*Van Lieburg, Marius J., Curaçao, S.A.,
(Plant Science — Plant Protection)
Honour; Weaver, George D., Ste. Anne
de Bellevue, Que., (Agricultural Eco-
nomics); *Whiteway, Linda G., Mon-
tague, P.E.I., (Plant Science), Honours.

* — In absentia

BIOLOGICAL SCIENCES DIVISION

Candidates presented by Professor
R. K. Stewart, Coordinator

Arsenault, Sandra M. (née Brown),
Pointe Claire, Que., (Environmental
Biology), Honours; Barry, B. Dawne,
Pointe Claire, Que., (Microbiology),
Honours; Bennett, Ross F., Glace Bay,
N.S., (Environmental Biology); Boyle,
Colin F., Lachine, Que., (Zoological

Sciences), Honours; Coates, Edward G., Montevideo, Uruguay, S.A. (Microbiology), First Class Honours; Governor General's Medal; University Scholar; Gray Medal; Coughlin, Michael F., Dorval, Que., (Microbiology), Honours; Donaghue, James A., Lachine, Que., (Zoological Sciences); Eckenfelder, Charles A., Dorval, Que., (Microbiology), Honours; English, Brian W., Ormstown, Que., (Zoological Sciences), Honours; University Scholar; Lochhead Memorial Prize; Fullarton, Robert A. Montevideo, Uruguay, S.A., (Environmental Biology); Hawker, Susan A., Montreal, Que., (Environmental Biology), First Class Honours; Hildebrand, Cheryl M., Lachine, Que., (Environmental Biology); Hunt, Paul, Beaconsfield, Que., (Zoological Sciences); Hynes, Russell K., Kirkland, Que., (Microbiology), Honours; Merry, George, Beaconsfield, Que., (Microbiology), Honours; Mofford, Calvin L., Montreal, Que., (Environmental Biology), Honours; Muria, J. Sarasvati, Brossard, Que., (Microbiology), Honours; Murray, Patricia G., Dorval, Que., (Microbiology), Honours; Park, Glenn W., Beaufort, Que., (Microbiology); Pequegnat, Cindy A., Beaufort, Que., (Environmental Biology), Honours; Rowe, Catherine E., Pointe Claire, Que., (Environmental Biology), Honours; Shaw, Robert, Ste. Anne de Bellevue, Que., (Environmental Biology); Simpson, Sandra H., Beaconsfield, Que., (Microbiology), First Class Honours; University Scholar; Stanford, Mary Lynn, Beaconsfield, Que., (Zoological Sciences); Steeves, Audrey C., Roxboro, Que., (Botanical Sciences), Honours; Tucker, Peter H., Côte St. Luc, Que., (Zoological Sciences), First Class Honours; University Scholar; *Weisenberger, Catherine, Montreal, Que., (Environmental Biology), Honours.

*— In absentia

RENEWABLE RESOURCES DEVELOPMENT DIVISION

Candidates presented by Professor
A. F. MacKenzie, Coordinator

Bourbonnais, M. Cynthia, Montreal, Que., (Wildlife Resources), Honours; Clark, Robert G., Senneville, Que., (Wildlife Resources), Honours; Cogdell, Ronald K., Ste. Anne de Bellevue, Que., (Community Resource Development), Honours; Cunningham, Alexander D., Montreal, Que., (Environmental Conservation), First Class Honours; *Dougall, James R., Beaconsfield, Que., (Wildlife Resources),

Honours; *Freeman, H. Marie, Bedford, N.S., (Wildlife Resources), Honours; *Goodwin, Gregory M., Baie d'Urfé, Que., (Environmental Conservation), Honours; Hogenbirk, Lambert, Ville St. Laurent, Que., (Wildlife Resources), Honours; Larocque, Graham N., Mansonville, Que., (Agricultural Land Planning Development); Metcalf, Judy L., Baie d'Urfé, Que., (Environmental Conservation), Honours; Morrison, Kenneth A., Beaconsfield, Que., (Wildlife Resources), Honours; Murphy, Lloyd G., Kensington, P.E.I., (Wildlife Resources); *Petrie, Bruce, Ste. Anne de Bellevue, Que., (Agricultural Land Planning Development), Honours; Russell, Andrew W., Lasalle, Que., (Environmental Conservation), Honours; Smith, Weldon L., Amherst, N.S., (Wildlife Resources); Terauds, Andris O., Cowansville, Que., (Agricultural Land Planning Development), Honours; Thompson, Robert G., Pointe Claire, Que., (Wildlife Resources); Wayne, Margaret O. Trois-Rivières, Que., (Wildlife Resources).

*— In absentia

Degree of Bachelor of Science in Agricultural Engineering

Candidates presented by Professor
J. R. Ogilvie, Chairman,
Department of Agricultural Engineering

Ami, Stephen R., Baie d'Urfé, Que., Honours; Havard, Peter L., Milton, Ont., Honours; Macpherson, Thomas W., Dalkeith, Ont., Mills, Jeffrey S., Montreal, Que., Posthumously; Mohammed, Hakim, Rio Claro, Trinidad, W. I., Honours; Sabourin, Henriot M., Ripon, Que., Honours; Stemshorn, Eric A., Beaconsfield, Que., Honours.

Faculty of Graduate Studies and Research

Candidates presented by Professor
E. Pedersen,
Vice-Principal (Academic)

MASTER OF SCIENCE

*Bailey, Robert O., B.Sc. (Agr.) (McGill), Manitoba (Renewable Resources); Bittman, Shabtai, B. Sc. (McGill), Israel (Agronomy); *Boyle, Wayne K., B.Sc. (Agr.) (McGill), Quebec (Entomology); Chieng, Sie-Tan, B.Sc. (National Taiwan), Malaysia (Agricultural Engineering); Essien, Ebong U., B. Sc. (Sierra Leone), Nigeria (Parasitology); Jacobs, Linda

P., B.Sc. (Mount St. Vincent), Nova Scotia (Animal Science — Nutrition); MacConnell, Henry M., B.Sc. (Agr.), (McGill), Nova: Scotia (Agricultural Chemistry); Manuel, Raymond L., B.Sc. (McGill), Trinidad, West Indies (Entomology); Ward, Frances, B.Sc. (McGill), Quebec (Microbiology).

*— In absentia

DOCTOR OF PHILOSOPHY

Ahmed, Nayeem U., B.Sc. (Dacca), M.Sc. (Florida), Bangladesh (Entomology)

"Detection of organophosphorous insecticide residue in soil by biological and chemical methods and the effect of such residues on soil microarthropods."

*Alleyne, Eslee H., B. Sc. (West Indies) M.Sc. (West Indies), Barbados, West Indies (Entomology)

"Biology, importance and control of Pemphigus bursarius (L.) on lettuce, with notes on related gall-forming species."

Edwards, Linnell M., B.Sc., (West Indies), M.Sc. (McGill), St. Kitts, West Indies (Agronomy)

"The natural resource factors of Nevis and their role in beef production with special emphasis on fodder supplies."

*Lalonde, Maurice, B.Sc. (Laval), M.Sc. (Laval), Quebec (Microbiology)

"Studies of the Alnus crispa root nodule symbiosis."

Negi, Satish C., B.E. (Rajasthan), M. Sc. (McGill), India (Agricultural Engineering)

"Pressures developed by silage materials in cylindrical tower silos."

Rogerson, John B.Sc. (London) M. Sc. (Salford) England (Parasitology)

"Cellular Response in Nippostrongylosis."

Tran, Van-Vi, B. Engg. (Berufaufbauschule Solingen), M.Sc. (McGill), Quebec (Agricultural Engineering)

"A study of a solar still coupled with a greenhouse."

*— In absentia

The Family

Farm

Published in the interests
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by the Quebec Department of
Agriculture.

PASTURES AND THEIR MANAGEMENT

by J.B. Roy, Agronome,
Information Division,
Quebec Department of Agriculture

There are about 1.7 million acres of improved pasture in Quebec or approximately 30 acres per farm.

In spite of the trend towards zero grazing in the wake of mechanization, pasturing is a way of farming which still has its place on most of Quebec's farms and is likely to keep it for a long time to come.

Pastures should be thought of as a crop on an equal footing with other crops. This means that attention must be paid not only to their establishment but also to their maintenance throughout the growing season and as long as they last. Unfortunately, for want of proper management, inadequate pasture yield is evident on many farms. Pastures should have a carrying capacity of one cow per acre but, in practice, they fall far short of this. On large numbers of farms two acres or more are required for each cow.

Pastures are the cheapest source of feed for dairy or beef cattle. Full advantage must be taken of the comparatively short five-month grazing season. Almost two-thirds of the year's milk yield is produced while the herd is out on pasture, so it is not surprising that the Quebec and Canada Departments of Agriculture and the experimental and research stations all devote part of their financial and personnel resources to the study of pastures. Briefly put, the aim of pastures and their management is twofold: to provide the animals with

sufficient herbage at a stage of growth such that they can eat enough of it to satisfy their needs; and to ensure that its nutritional value is high.

The characteristics of good pasture are abundance of tender herbage, a satisfactory mixture of the different plants, fast growth, and handiness to water and shade.

The needs of a cow on pasture

Regardless of the quantity and quality of the grazing, the behaviour of a pastured cow is always the same. She only grazes for eight hours a day, five of them during daylight, and she needs daily 150 pounds of green forage containing 32 pounds of dry matter (or the equivalent of these quantities).

As the pasturage ages or deteriorates as the season advances, the cow eats less green matter and hence obtains less dry matter. The figures in the following table are evidence of this.

Quality of Herbage	Intake in lb/day	
	Green matter	Dry matter
Herbage 4 to 5 inches high	150	32
After 5 or 6 days grazing	90	120
After 10 days grazing	45	10

This diminishing nutritional value of the pasture plants has to be compensated for by supplementing the cow's diet; for it is important to remember that if one wants her to obtain her nourishment by grazing, the pasture must provide a regular and ample supply of good-quality forage. Otherwise the animal will suffer the effects of a disturbing variation in the quality

of her feed — unless it is completed day by day with a supplementary ration of feedstuffs from other sources. However, the customary steady decline in milk yield over the summer months as pasture quality deteriorates shows that, in practice, such supplementary feeding is usually neglected.

Types of Pasture

Broadly speaking, the pasturage generally found in Quebec comes under four headings: natural pastures, hayfields turned into pastures, emergency pastures, and improved pastures (i.e. seeded pastures in the farm rotation).

Natural pastures are generally found on terrain which is hard to make arable. They cover a wide range of conditions, including shrubby, marshy, rocky, hilly and mossy land, and land cut up by ravines. Their yield depends on the quality of the soil and, because of the difficult or inaccessible terrain, this can be only partly changed. Their botanical

composition or nature varies according to the conditions. They may be fields which are left in pasture for years and get an occasional harrowing and a few pounds of fertilizer or even a reseeding with Ladino clover. If they are close to the buildings they can be used as paddocks without being used for regular grazing.

Hayfields turned into pastures are, all things considered, part of the regular rotation. They are used as pastures for a couple of years after having produced hay crops for four or five years. They can provide quite good grazing but a farmer who has been using a system of seeded pastures for some years can get along comfortably if he looks upon converted hayfields only as emergency pastures. Thus, at the very start of the grazing season, when he is preparing his program, he will plan to protect his good pasture fields during the summer and especially during their fall resting period. In this way, an old hayfield may be treated for use when the good pastures are in need of a rest.

There will not be any Ladino clover in these converted hayfields, of course, but a good grass like timothy, bromegrass or even couch-grass well fertilized with a nitrogenous fertilizer will provide excellent grazing in August and September.

A grazing program is not something one puts off preparing till the last minute in the spring, summer, and fall; it must be thought out and prepared in advance. The same applies to emergency pastures: these should be provided for in spring after a survey of any winter-killing and taking into account possible midsummer droughts.

For emergency pasture, an old hayfield may be used which has been fertilized after being cut, so that it will produce a good aftermath; or one can plough up a pasture — the least satisfactory — and reseed it immediately to

grain, corn, rape, millet, or rye or, in general, with any plant that will provide good herbage — which will certainly be better than the poor grazing such a pasture would otherwise have provided. Emergency pastures of this kind do not cost a lot and they save the good fields. Emergency pastures are insurance-pastures which every farmer should study.

Seeded Pastures

At this time of year, seeded pastures are the ones to which more attention is paid because of the management they call for. Let us take it for granted that a seeded pasture has been established under good soil drainage conditions following suitable tillage, liming, fertilizing, and seeding. Nevertheless, management is the most important factor in ensuring its success and duration, so let us see what this involves — to begin with during the first year and then, more generally, in the case of pastures which have been established for longer than a year.

The care and maintenance of a pasture in the *year of seeding*, with oats as a companion crop, require that the animals be turned into the field as soon as the cereal is 8 to 10 inches high. The field should be grazed as quickly as possible and then left to rest until the oats reach 8 to 10 inches again.

The grazing of such seedings in the year of sowing should be strictly controlled. The animals must not be allowed to graze the plants down to the ground but, on the other hand, the oats must not be allowed to head if they are to grow

again. The growth of the companion crop must be controlled or else it will tend to retard or even smother the pasture plants, which need moisture to germinate and emerge from the soil and sun to develop.

If grazing does not suffice to control the growth of the companion crop, the mower should be used. As a matter of fact, cutting the young pasture not only gives good control of growth but saves fodder which would otherwise be wasted. It allows the young plants to get all the light they need and also helps to control the growth of weeds. However, every care must be taken during the seeding year to apply the appropriate herbicide sprays. In this connection, herbicide recommendations should be discussed with the local agronomist in order to decide on the best product to use and the best time to apply it.

At the end of August, the seeding should be given a final grazing and, if necessary, mowed prior to the rest it will be given in September. During September, the clover will be left to grow and spread and, above all, develop a good root system. At the end of September, the roots will swell with the reserves they are going to need the following season.

If, for some reason, fertilization of the seeding has been reduced, the end of August or beginning of September is the time to make up for it by applying non-nitrogenous fertilizer at the rate of 300 pounds per acre.



The importance of the fall rest period mentioned above must be stressed. It should last till the middle of October if possible. If growth has been luxuriant during the rest period, the animals can be turned in after that date provided two simple precautions are taken, namely watch out for bloat and leave at least four inches of vegetation to ensure better snow cover.

Now let us take a look at the care needed by a Ladino clover pasture which is *already established*. A Ladino pasture seeded in the

previous growing season will show vigour with the first warm spring days, but growth may be retarded if the new season gets off to an unduly cool start. The important thing is to turn the animals in as soon as the clover is 7 or 8 inches high. It may reach this stage sooner than expected and if the cows are kept off it too long the subsequent growth will be delayed. Grazing the field as rapidly as possible prevents the plants being eaten down to soil level. The animals must be removed before this occurs.

Changes in temperature and rainfall make it very difficult to achieve and maintain ideal grazing. While generally very good in spring and early summer, the state of the vegetation deteriorates owing to lack of moisture in July and August and then becomes excellent again in the fall. The provision of young and tender herbage throughout the season thus presents a problem. Irrigation may be a worthwhile aid to solving it especially for the farmer who has an irrigation system for other crops.

Grazing Management

Good grazing management is based on the following four things:

- dividing the pasture up into sections or blocks and grazing them rotationally;
- maintaining the sward at the height which is ideal and advantageous for the cow, namely five inches;
- seeing that the sward is not grazed down too low (three inches) nor left too high (five to six inches);
- clipping the weeds and uneaten herbage in a block when the cows are removed from it. This will result in a more uniform sward and more tender and appetizing herbage;
- spreading the droppings by harrowing (because the accumulation of manure reduces the area and yield of the sward).

Fertilizing and Maintenance

A good pasture is unthinkable without a good fertilizer program. This statement will be more easily grasped if we remember that a 20-cow herd on a 20-acre pasture removes from it 1,140 pounds of nitrogen, 600 pounds of phosphoric acid, and 500 pounds of potash. This total of about a 1¼ ton of fertilizer elements must be returned to the soil through manure and fertilizer if the land is not to be impoverished or even exhausted.

Fertilizing for maintenance will depend on the composition of the sward. If there is plenty of clover, two broadcast applications, each of 200 pounds per acre of a

non-nitrogen fertilizer, should be made during the season (but before the rest period). In the year following the seeding year boron is added to the fertilizer applied to Ladino, birdsfoot trefoil, or alfalfa. Pastures in which there is no longer any clover should receive two broadcast applications (at least 50 pounds per acre each) of a high-nitrogen fertilizer during the season following a grazing.

The resting period is necessary not only for pastures in their year of seeding but also for an established pasture if it contains a good proportion of Ladino, birdsfoot trefoil, or alfalfa. Grazing should be discontinued from September 1st to October 15th. The pasture should first be mowed, if necessary, and then fertilized. The rest gives the legumes a chance to replenish their reserves for the coming winter and also for making new growth the following spring. If it turns out that there is superabundance of sward about mid-October, it can be grazed.

Pasture substitutes

One or other of the following two feeding methods can be substituted for pasturing — grass silage and zero-grazing.

The grass silage method consists in feeding the cows only silage and dry hay all year round. There is no grazing as such. The animals are not confined and thus can get exercise. They are fed either in the barn or from a rack outside. This

method is simple. It ensures a uniform nutrition or at least one whose quality can be easily corrected or supplemented. It also facilitates automation and increases per-acre yield of pastures while avoiding risk of bloat and permitting better management of the fields. The grass ensiling procedure necessarily involves some thought on the part of the farmer because he is going to have to plan his working day and his crops differently.

Zero grazing consists in cutting and chopping daily the green fodder to feed to the animals in the barn or feedlot. This method reduces waste and the trampling and poaching of fields, and it also solves problems of droppings, rejected herbage, fencing, and watering. However, fodder has to be cut every day and the necessary machinery has to be kept available and trouble-free.

To conclude this review of pastures and pasture management, let us emphasize that pasturage, like any other crop, calls for care and attention in early spring and late fall. A good dairy farmer who has high-yielding pastures can always look forward to a good summer.



From left to right at recent Convention: Mrs. A. Burgess, Secretary, Mrs. G. Cascadden, Treasurer, Mrs. P. Rockwell, guest from National Farm and Garden Assoc., Mrs. J. McLean, President FWIC, Miss E. Smith, 1st Vice-President, and Mrs. W. Coates, 2nd Vice-President.

A Special Guest at Convention

Mrs. Parker Rockwell, from Troy, Michigan, is National Treasurer of the Woman's National Farm and Garden Association in the United States. As a Grace E. Frysinger International Fellowship exchangee, she spent the better part of May and June visiting with WI and other ACWW affiliates from coast to coast in Canada. A WI member from Alberta will visit the U.S. in September. While Mrs. Rockwell was in Canada she attended our

Convention and was one of the guest speakers. She told us a great deal about her Association and the following are but a few of the highlights.

The Grace E. Frysinger International Fellowship is an exchange of members between Farm and Garden and a representative of another constituent ACWW Society. A committee selects the person from Farm and Garden and also decides which country should be asked to participate. The guest

country selects their own participant. The exchange is held every three years and lasts from four to six weeks. The first exchange was with Scotland in 1956. It is uniquely a Farm and Garden project and the costs for both recipients are paid by Farm and Garden with gifts coming from individuals, branches, and divisions. The Fellowship is a dream come true for Miss Frysinger, who has always been dedicated to greater understanding, friendship, and co-operation between countries.

The Woman's National Farm and Garden Association began as a very rural organization in 1914 in Ambler, Pennsylvania, with members being encouraged to grow food for wartime needs. Another goal was "to help the women on the farm and the women in the city to a realization of their interdependence and to a better understanding of their mutual problems." Farm and Garden has gradually become more urbanized and now has members from all walks of life in 11 different States. Some have no connection with the land at all — "not even a flower pot!"

The aims and interests of the Association cover a wide field and include conservation, ecology, floriculture, horticulture, education, and international relationships and all its facets.

At the branch level, the Association sponsors Teacher's Training at a State Department of Natural Resources School. The selected teachers attend summer school and learn many ways of conservation and use this knowledge to teach conservation to their pupils who, in turn, educate their parents and families.

On the National level, the Association is aware of the dangers to country areas becoming overdeveloped and have bought acres of wilderness to preserve natural trees and flowers in these areas. They lend financial support to the National Arboretum in Washington, D.C. They have contributed a lovely dogwood garden, said to be one of the most extensive in the world, teakwood benches, a foun-

tain and are, at present, contributing for a sauntering path which is still in the planning stage but which will eventually be built for the benefit of the aged and handicapped, who otherwise cannot walk the paths of the Arboretum. They hope to have a "touch, feel, and smell" garden in the near future for blind people.

Funds for this type of conservation come from a memorial fund to which people donate in lieu of flowers; a card stating this is sent to the bereaved family.

Individuals contribute in many ways — recycling glass and paper, etc. One member used funds raised to beautify a shopping centre with trees and flowers. Another group sold flowering crab apple trees and planted the extras in a median of a busy highway, and everyone benefits from the beauty of the blooms in the spring.

Members of Farm and Garden are keenly interested in the growing of flowers and this has led to exhibitions, flower arranging, and judging. A group of women have become involved with work in hospitals for the mentally and physically handicapped. They teach patients how to grow plants, arrange flowers, etc. Some make tray favours for the ill. Others teach the art of growing and arranging to children. This aspect of their work gives great satisfaction as so many patients have recovered sooner than they normally would have after this type of therapy.

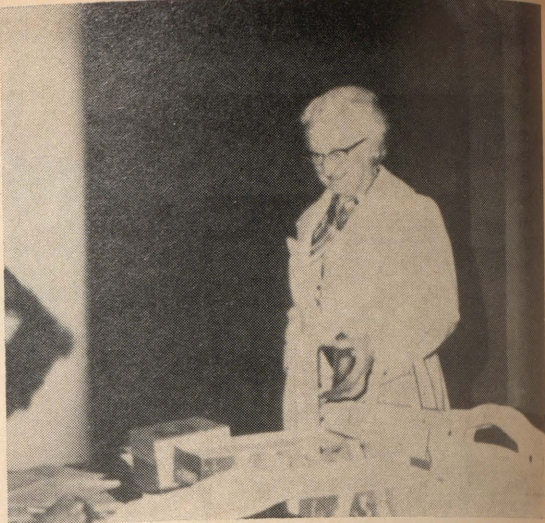
Farm and Garden members are particularly interested in the education of young people, who,

without assistance, would not be able to attend college. They have scholarships for horticulture, horticulture therapy, conservation or forestry, education, and veterinary medicine. Their latest venture is into the area of oceanography where so many new things are developing, and for the past three years they have sent a girl to the Woods Hole Oceanographic Institute in Massachusetts.

In selecting students for scholarships, Farm and Garden frequently relies on 4-H and use their criteria. Many of the scholarships are given to the 4-H members because they seem more interested in the programs. They mainly sponsor girls, though both sexes do receive scholarships.

They also have a Homemaker's Scholarship that enables a young farm woman to go to special classes at a State College for one week during June to learn the latest methods of canning and freezing, or bread making or any number of things. Her tuition is paid by Farm and Garden and sometimes they provide for care for her small children while she is gone or take care of her garden, etc. She, in turn, teaches others in her community what she has learned.

Another project is the International Farm Youth program, which is an exchange between 4-H students of college age in the U.S. and other countries. Funds for the I.F.Y. program and their education scholarships are raised in as many ways as the WI raises funds — dinners, sales, flower shows, teas, and so on.



Opposite page: Miss Hanna Smith from Argenteuil Co. registering for Convention. Top: The nearest and the farthest. While Mrs. L. French, West Island, and Mrs. W. Waugh, Grosse Isle, Magdalen Islands, were chatting they found they had another common bound. Both are graduates of Macdonald College. Below Miss S. Auger and Miss V. Moranville, Home Economics Convener, admire a crib quilt Miss Auger brought with her from Quebec City.



The Woman's National Farm and Garden Association, as a member of ACWW, supports Pennies for Friendship and other ACWW funds and projects.



Like the WI they are interested in arts and crafts. They have a representative at the UN and are attempting, in this International Women's Year, to improve the quality of life for those who live in developed countries and to finally realize that we are all working for the same things — "We all need to eat, all need clean air and water, all need incomes and, most

of all, we all need hope for the future."

Mrs. Rockwell was a worthy ambassador of her Association. We trust that she had an interesting and safe journey throughout Canada. In the coming months Mrs. Rockwell will visit other branches of Farm and Garden and tell them about her visit to our country.

Open Letter to Convention

Dear fellow members of the Q.W.I. and friends:

"It is with deep regret that I must tell you I cannot be with you this Convention. My doctor will not allow me to go.

"I cannot in words express my thanks to my devoted and efficient



Mrs. George Parsons

Mrs. George Parsons, was born Nellie Annabella Lefebvre on December 29, 1885. She died in June 1975.

Mrs. Parsons had been a member of the Bury W.I. in Compton County for 55 years. She had held office in her branch and county and had been Provincial Treasurer for four years and Provincial Convener of Home Economics for five years. Mrs. Parsons compiled the book of Life Memberships for Q.W.I. and was co-chairman on the Jubilee Committee with Mrs. H. Palmer. Besides this, she made seven radio broadcasts on behalf of the W.I. and in 1967 won an award for Achievements in Journalism from the Canadian Women's Press Club.

Mrs. Parsons was a former school teacher and a correspondent for the Sherbrooke Record for 74 years. Her interests were many — reading, music, handicrafts, and gardening. She was active in church work and was instrumental in starting the Compton County Historical Society and was a Life Member of it.

Her Branch presented her with a Life Membership in 1948.

Mrs. Parsons was a great grandmother (8 children, 32 grandchildren and 36 great grandchildren) and seldom forgot birthdays or Christmas. She gave over 110 gifts for Christmas 1974. Her entry to the '75 Coats' embroidery contest, which won second prize at the County level, was made two weeks before her death. She will be sadly missed by all her family and friends.

executive: Miss Smith, Mrs. Coates, Mrs. Cascadden, and to Mrs. Burgess, our Secretary. They have all taken over my duties since the last Executive meeting, April 12th, and have done everything to help me.

"To all the members both branch and county and to the Executive I would like to say thank you for all your flowers, cards, and letters of encouragement. They have all meant so much to me.

"I will miss seeing my good friend Ellen McLean, National President of the F.W.I.C., also meeting Mrs. Kay Rockwell.

"I wish for all of you a very happy convention and, God willing, will see some of you at the Semi-Annual in November. Keep up the good work for the Q.W.I. and Home and Country, and keep up your prayers for me.

"My thanks to Miss S. Auger, for all her help with the handicrafts. God bless you all."

Sincerely,
Edyth R. Westover,

Provincial President Q.W.I.
(We are adding our own P.S. to Mrs. Westover's letter in order to let you know that she is feeling better. Her outings are mostly to the hospital for tests and check-ups, and she is, therefore, looking forward to the time when these can become a little more social. Meanwhile, she is carrying on her duties by letter and telephone.)

1975 International Quilt Competition

Sponsored by the Atlantic Winter Fair and the Women's Institutes of Nova Scotia.

Regulations:

1. Entries open to groups or individuals.
2. Quilts must be double bed size.
3. Quilts may be patchwork, embroidered, applique, etc. and must have been completed during 1975.
4. Any design may be used, traditional, original, etc.
5. Quilts will be judged on workmanship (75 per cent) and artistic merit (25 per cent).
6. An entry fee of \$5.00 to be paid and only one entry per exhibitor.
7. Exhibitors must include return postage when sending in entry.
8. Prizes to be awarded — 1st: \$250. and trophy, 2nd: \$150., 3rd: \$75., 4th: \$25.
9. The first four placings will be on display at the Atlantic Winter Fair, October 11th-18th, Halifax, N.S.
10. Judging will be done by a panel of three qualified judges.
11. For further information and entry forms please write:
Atlantic Winter Fair
2901 Windsor St.
Forum Complex
Halifax, N.S. B3K 5E5
OR
Women's Institute Office
Boulder Building
N.S. Agricultural College
Truro, N.S.
12. Closing date for entries is September 15, 1975.

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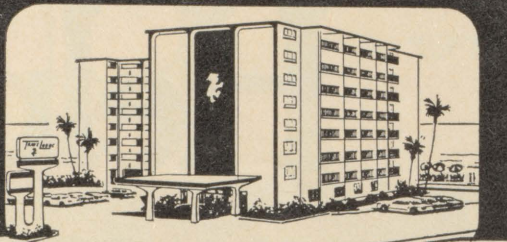
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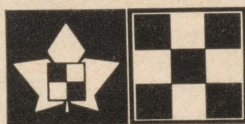
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